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Mental disorders among college students in the WHO World Mental Health Surveys

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Author contributions

Auerbach, Bruffaerts, Cuijpers, Ebert, and Kessler conceived of the paper and designed the analysis plan. Kessler and Sampson supervised the statistical analysis, which was carried out by Hwang and Liu. All coauthors participated in discussions to interpret the results. Auerbach and Kessler wrote the first draft, while all other coauthors participated in revisions and approved the final version of the manuscript for submission.

Declaration of Interest

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Abstract

Background—Although mental disorders are significant predictors of educational attainment throughout the entire educational career, most research on mental disorders among students has focused on the primary and secondary school years.

Methods—The World Health Organization World Mental Health Surveys were used to examine the associations of mental disorders with college entry and attrition by comparing college students (n = 1,572) and nonstudents in the same age range (18–22; n = 4,178), including nonstudents who recently left college without graduating (n = 702) based on surveys in 21 countries (4 low/lower-middle income, 5 upper middle-income, 1 lower-middle or upper-middle at the times of two different surveys, and 11 high income). Lifetime and 12-month prevalence and age-of-onset of DSM-IV anxiety, mood, behavioural and substance disorders were assessed with the Composite International Diagnostic Interview.

Results—One-fifth (20.3%) of college students had 12-month DSM-IV/CIDI disorders. 83.1% of these cases had pre-matriculation onsets. Disorders with pre-matriculation onsets were more important than those with post-matriculation onsets in predicting subsequent college attrition, with substance disorders and, among women, major depression the most important such disorders. Only

16.4% of students with 12-month disorders received any 12-month healthcare treatment for their mental disorders.

Conclusions—Mental disorders are common among college students, have onsets that mostly occur prior to college entry, in the case of pre-matriculation disorders are associated with college attrition, and are typically untreated. Detection and effective treatment of these disorders early in the college career might reduce attrition and improve educational and psychosocial functioning.

Keywords

Mental Illness; College; Education; College Dropout; College attrition; Epidemiology

INTRODUCTION

Although prevalence (Costello *et al.*, 2005; Merikangas *et al.*, 2009) and treatment (Fazel *et al.*, 2014a; Fazel *et al.*, 2014b) of mental disorders among elementary and secondary school students has been the subject of considerable attention, less is known about mental disorder prevalence or treatment among college students other than in the United States (Eisenberg *et al.*, 2007; Blanco *et al.*, 2008; Cho *et al.*, 2015; Kendler *et al.*, 2015; Mojtabai *et al.*, 2015). We know somewhat more about the associations of early-onset mental disorders with significant reductions in subsequent educational attainment (Kessler *et al.*, 1995; Fergusson & Horwood, 1998; Johnson *et al.*, 1999; Miech *et al.*, 1999; Woodward & Fergusson, 2001; Fergusson & Woodward, 2002; Fletcher, 2008; Lee *et al.*, 2009; Mojtabai *et al.*, 2015), but this work is limited by either being based on small restricted samples or by being subject to long-term recall bias. Given the importance of an educated workforce for the human capital potential of a country, it would be valuable to know more about five questions: First, what is the prevalence of mental disorders among college students? Second, what proportion of those disorders had onsets prior to college entry? Third, to what extent are disorders with pre-matriculation onsets associated with college entry? Fourth, what is the relative importance of disorders with pre-matriculation and post-matriculation onsets in predicting college attrition? Fifth, what proportion of college students with mental disorders receives treatment? We address these five questions using data from community epidemiological surveys carried out in 21 different countries in the WHO World Mental Health (WMH) Survey Initiative.

METHOD

Samples

The WMH surveys are a cross-national series of community epidemiological surveys using consistent sampling designs, field procedures, and instruments to facilitate pooled cross-national comparative analyses (Kessler & Üstun, 2011). The focus is on prevalence and correlates of common mental disorders. The data reported here come from the 23 WMH surveys carried out in 21 countries that assessed college student status and had a sufficiently large sample to: (i) estimate prevalence among college students ages 18–22; and (ii) estimate and compare prevalence in disaggregated subsamples of nonstudents in the same age range as students, distinguishing college attriters from respondents who never entered college. The

18–22 age range was chosen because the vast majority of college students were in that age range across countries. We excluded college graduates because it was rare to find them in the 18–22 age range.

The surveys were carried out in 21 countries: 5 classified by the World Bank (2012) as low or lower-middle income countries (national surveys in Colombia, Iraq, and Peru, a regional survey in Nigeria, and regional surveys in Beijing-Shanghai and Shenzhen in the People's Republic of China [PRC]), 6 classified as upper-middle-income countries (national surveys in Bulgaria, Lebanon, Mexico, and Romania and regional surveys in São Paulo Brazil and Medellin Colombia), and 11 classified as high income countries (national surveys in Australia, Belgium, France, Italy, Netherlands, New Zealand, Northern Ireland, Poland, Portugal, Spain, and the United States). The national survey in Colombia was classified as lower-middle income but the regional survey in Medellin Colombia upper-middle income because the World Bank classification of Colombia's income level changed between the times of the two surveys.

Each WMH survey was based on a probability sample of household residents using a multi-stage clustered area probability sample design. Response rates ranged between 50.4% (Poland) and 97.2% (Colombia) with a weighted mean of 71.4% across surveys. A detailed description of sampling procedures is presented elsewhere (Heeringa *et al.*, 2008). We focus here on all respondents in the age range 18–22 who were either college students (n=1,572), college attriters (n=702), secondary school graduates who never went to college (n=1,571), or people who never completed secondary school (n=1,905). We exclude the small number of 18–22 year olds in the surveys who were college graduates (n=183) because this was an uncommon outcome. In order to increase precision of prevalence comparisons, the joint age-sex distributions of students and nonstudents within each country were standardized to equal the pooled student distribution across all countries combined. All results reported here combine men and women. However, all analyses were also carried out in separate samples of men and women (detailed results are available on request) and important differences in results are noted throughout the text.

Field procedures

Interviews were administered face-to-face in respondent homes (or, in the case of students living in campus group housing, in their student residences) after obtaining informed consent using procedures approved by local Institutional Review Boards. All procedures used complied with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975 as revised in 2008. The interview schedule was developed in English and translated into other languages using a standardized WHO protocol (Harkness *et al.*, 2008). Interviews were administered in two parts. Part I, administered to all respondents, assessed core DSM-IV mental disorders. Part II assessed additional disorders and correlates. Part II was administered to 100% of Part I respondents who met lifetime criteria for any Part I disorder and a probability subsample of other Part I respondents. Part II respondents were weighted to adjust for differential probabilities of selection into Part II, making estimates of prevalence in the weighted Part II sample identical to those in the Part I sample. The current

analysis is based on the Part II sample. More details about WMH sample design and weighting are presented elsewhere (Heeringa *et al.*, 2008).

Measures

Student status—All respondents were asked if they were currently students or had finished their education and how many years of education they had completed. College students were defined as those in the age range 18–22 who had completed secondary school and were currently students (either part-time or full-time). College students were compared to college attriters (i.e., respondents in the same age range who completed some college but did not graduate and were no longer students) and other nonstudents in the same age range with education less than or equal to a secondary school education.

Mental disorders—Mental disorders were assessed with Version 3.0 of the Composite International Diagnostic Interview (CIDI, Kessler & Ustun, 2004), a fully-structured diagnostic interview administered by trained lay interviewers. DSM-IV criteria are used here. The CIDI assessed two lifetime mood disorders (major depressive disorder and broadly-defined bipolar disorder [BPD; including BPD-I, BPD-II, and subthreshold BPD, which was defined using criteria described elsewhere (Kessler *et al.*, 2006), five lifetime anxiety disorders (separation anxiety disorder, panic disorder with or without agoraphobia, generalized anxiety disorder [GAD], phobia [either agoraphobia without a history of panic disorder, social phobia, or specific phobia], posttraumatic stress disorder [PTSD]), four disruptive behaviour disorders (attention-deficit/hyperactivity disorder [ADHD], oppositional-defiant disorder, conduct disorder, intermittent explosive disorder), and four substance disorders (alcohol abuse with or without dependence; alcohol dependence with abuse, drug abuse with or without dependence, drug dependence with abuse). Age-of-onset of each disorder was assessed using special probing techniques shown experimentally to improve recall accuracy (Knäuper *et al.*, 1999). Age-of-onset reports were used to determine whether each respondent had a history of each disorder prior to the typical age of beginning college (i.e., ages 0–17). DSM-IV organic exclusion rules and diagnostic hierarchy rules were used other than for substance abuse, which was defined with or without dependence. As detailed elsewhere (Haro *et al.*, 2006), generally good concordance was found between these CIDI diagnoses and blinded clinical diagnoses based on clinical reappraisal interviews with the SCID (First *et al.*, 1994).

Treatment of 12-month disorders—Respondents who met criteria for any 12-month DSM-IV/CIDI disorder were presented with a list of mental health care providers (e.g., psychiatrist, psychologist, psychotherapist), general medical providers (e.g., general practitioner, cardiologist or other medical specialist, nurse), human services professionals (e.g., social workers, spiritual advisor), alternative therapists-(e.g., herbalist, spiritualist), and self-help groups and asked if they ever sought help from each of these types of individuals or settings “for problems with your emotions, nerves, or your use of alcohol or drugs,” and, if so, how recently they did so. Respondents who reported seeking treatment at any time in the past 12 month were then asked how many visits they made in the past over that time period to each type of individual or setting. Consistent with earlier WMH analyses (Wang *et al.*, 2007), we defined minimally adequate treatment as either (i) making at least 4 visits in the

past 12 months to *any* type of treatment provider, (ii) making at least 2 visits and using *any* type of medication for their emotional problems, or (iii) still being in treatment at the time of interview.

Analysis methods

All analyses used weighted data. Cross-tabulations were used to estimate 12-month prevalence of each DSM-IV/CIDI disorder as of the time of interview and to decompose prevalence estimates into those with pre-matriculation onsets (i.e., ages 0–17) and post-matriculation onsets (ages 18+), noting that the definition of pre-matriculation disorders was conservative in that virtually of those classified pre-matriculation did, in fact, start before college entry while some unknown number of disorders with onsets after age 17 started before the respondent's college entry. These estimates were made separately for each disorder pooled across countries among college students, college attriters, and respondents who had never entered college. A second set of cross-tabulations was then estimated for lifetime prevalence of each disorder in the total sample separately among respondents in each of the same subsamples. Logistic regression analysis was used to estimate the odds-ratio of 12-month and lifetime prevalence of each disorder within each of three pairs of subgroups: (i) students vs. respondents who never entered college, (ii) attriters vs. respondents who never entered college, and (iii) students vs. attriters. Logistic regression coefficients and standard errors were exponentiated to produce odds-ratios (ORs) with 95% confidence intervals (95% CIs). Logistic models included dummy control variables for surveys. We also evaluated significance of differences in ORs across countries at different income levels. Statistical significance was consistently evaluated using .05-level two-tailed tests. The design-based Taylor series method (Wolter, 1985) implemented in the SAS software system (SAS Institute Inc., 2010) was used to adjust significance tests for the weighting and clustering of observations. Overall fit of the logistic models was assessed by calculating area under the receiver operating characteristic curve (AUC).

RESULTS

Distribution of students

An average (mean [standard error]) of 30.9% (0.9) of respondents ages 18–22 across surveys were students, with a range between 4.1% (Shenzhen PRC) and 59.0% (Beijing-Shanghai PRC and Medellin Colombia) Aggregate rates were similar for males (32.0%) and females (29.7%). (Detailed results are available on request.)

What is the 12-month prevalence of DSM-IV/CIDI disorders among college students?

Twelve-month prevalence of any DSM-IV/CIDI disorder was 20.3% among college students compared to 25.0% among attriters and 21.4% among other nonstudents. (Table 1) Students also had a lower mean number of overall disorders (23.9/100 persons) than either attriters (39.7/100) or other nonstudents (32.8/100). Anxiety disorders were the most prevalent class of disorders across all groups in the full sample (11.7–14.7%) followed by mood disorders (6.0–9.9%), substance disorders (4.5–6.7%), and behavioral disorders (2.8–5.3%). The most prevalent individual disorders were phobias (9.0–11.1%) and MDD (4.5–7.7%). Logistic models controlling age-sex and survey found that students had significantly higher

prevalence than attriters of panic disorder and lower prevalence of behavioral disorders, while students had significantly lower prevalence than other nonstudents of quite a few disorders (GAD, PTSD, any mood disorder, ADHD, oppositional-defiant disorder, drug dependence) as well as of number of disorders.

What proportion of 12-month DSM-IV/CIDI disorders had onsets prior to college entry?

The vast majority (83.1%) of students with 12-month disorders reported pre-matriculation onsets. (Table 2) The only disorder-specific exceptions were that post-matriculation onsets were more common than pre-matriculation onsets among students for 12-month panic disorder (51.8%) and alcohol abuse-dependence (70.0−67.6%) and that post-matriculation onsets characterized sizable minorities of students with 12-month GAD (38.4%), PTSD (41.3%), mood disorders (41.6%), and drug abuse (46.2%). Relative proportions of pre- versus post-matriculation onsets were generally comparable among attriters and other nonstudents as among students (χ^2_1 = 0.0–3.4, p = .92−.06). The two exceptions to this general pattern were that a significantly higher proportion of students (70.0%) than attriters (42.5%; χ^2_1 = 8.6, p = .003) with 12-month alcohol abuse had post-matriculation onsets and a significantly higher proportion of students (16.9%) than nonstudents (12.3%; χ^2_1 = 5.4, p = .020) with any 12-month disorders had at least one such disorder with a post-matriculation onset.

Do pre-matriculation onset DSM-IV/CIDI disorders predict college entry

Somewhat smaller proportions of respondents who entered college (25.3%) than those who did not (27.2%; 28.2% of those who graduated from secondary school) met criteria for at least one lifetime pre-matriculation DSM-IV/CIDI disorder. (Table 3) Mean number of disorders was also lower for students (36.2/100) than nonstudents (48.9−46.4/100). Anxiety disorders were consistently much more common across these samples (15.7–19.0%) than either mood (7.9–8.3%), behavioral (6.8–7.8%), or substance (5.0–6.9%) disorders. Phobia was by far the most prevalent individual disorder (11.6–13.9%) followed by major depressive disorder (5.8–6.2%). Logistic regression analysis controlling age-sex and survey found that history of one or more pre-matriculation disorders was associated with significantly reduced odds of subsequent matriculation among respondents who graduated from secondary school (OR 0.8; 95% CI 0.7–1.0), although further analysis (detailed results available on request) showed that this was true only in high income countries (OR 0.7; 95% CI 0.6–0.9). A similar pattern was found for number of disorders. Disaggregated analysis showed that a number of individual anxiety (separation anxiety disorder, panic disorder, PTSD), behavioral (conduct disorder, oppositional-defiant disorder), and substance (alcohol and drug abuse) disorders were implicated in these aggregate associations, with mood disorders the only class of disorders not significant in any of the comparisons. Replication of these analyses separately among males and females (detailed results available on request) revealed that the significant inverse associations between pre-matriculation disorders and subsequent matriculation were for the most part stronger among females than males.

Do pre- and post-matriculation onset DSM-IV/CIDI disorders predict college attrition?

A significantly lower proportion of students than attriters had one or more pre-matriculation onset mental disorders (22.9% versus 30.3%; t=2.7, p=.007). This pattern is consistent with

pre-matriculation disorders predicting subsequent attrition among college students, although this difference became nonsignificant in the logistic regression analysis controlling age-sex and survey (OR 0.9; 95% CI 0.6–1.1). (Table 4) However, a comparable model that looked at *number* of pre-matriculation disorders (0.1,2.3,4+) found a significantly lower odds of being a student than attriter (OR 0.8; 95% CI 0–6–1.0). The individual disorders significantly implicated in this association were all substance disorders. The association was significant only in high income countries. Replication of these analyses separately among males and females (detailed results available on request) showed that pre-matriculation alcohol and drug abuse predicted attrition among males (with ORs of 0.2–0.4), while MDD, alcohol abuse, and drug dependence were significant among females (with ORs of 0.2–0.6).

A significantly lower proportion of students than attriters also had one or more post-matriculation onset disorders (6.7% versus 10.9%; t=2.5, p=.006), but again this difference became nonsignificant in the logistic regression analysis (OR 1.2; 95% CI 0.8–1.8). A parallel model for number of disorders was also insignificant. Logistic regression found only one individual disorder, panic disorder, with significantly different odds of post-matriculation onset among attriters compared to students, but in this case the odds were significantly higher, not lower, among students than attriters (OR 5.0; 95% CI 1.1–22.1). Replication separately among males and females (detailed results available on request) showed that the pattern differed by sex, with the significantly elevated odds of post-matriculation panic disorder among students compared to attriters confined to males and the only significant OR among females involving post-matriculation onset GAD being lower among students than attriters (OR 0.2; 95% CI 0.1–0.5).

What proportion of students with 12-month DSM-IV/CIDI disorders receive treatment?

Roughly one-sixth (16.4%) of students with 12-month DSM-IV/CIDI disorders received minimally adequate treatment for these disorders in the 12 months before interview. (Table 5) This treatment rate was not significantly different from that of attriters (16.6%; $\chi^2_1 = 0.8$, p = .37) or other nonstudents (10.6%; $\chi^2_1 = 2.8$, p = .09). However, the treatment rate of students decreased monotonically with country income level, from 23.1% in high income countries, to 11.4% in upper-middle and 6.7% in lower-middle/low income countries ($\chi^2_2 = 7.4$, p = .025).

DISCUSSION

We presented here the first large-scale cross-national investigation of 12-month and lifetime prevalence of mental disorders among college students, the associations of pre- and post-matriculation mental disorders with college matriculation and attrition, and 12-month treatment of mental disorders among college students. The results showed that a substantial proportion of college students have 12-month DSM-IV/CIDI disorders, that the vast majority of cases had pre-matriculation onsets, that pre-matriculation disorders are associated with both reduced odds of college matriculation and elevated odds of attrition, and that only a small minority of college students receive even minimally adequate treatment for their mental disorders.

In considering intervention possibilities, an important question unanswered by our results is whether the pre-matriculation disorders we found to be associated with attrition are stable. This question arises because we made a great many comparisons in the analyses, leading to the possibility that some of the associations judged to be significant were false positives. Replication is needed to evaluate this issue. This replication would ideally be carried out in a prospective sample that assessed student at the time of college entry and follows them through their college careers to evaluate the importance of -matriculation predictors of college outcomes.

Assuming that this replication supports our finding that pre-matriculation mental disorders are associated with attrition, a second important unanswered question is whether these disorders are causal risk factors or only risk markers of attrition (Kraemer *et al.*, 1997). Our findings that pre-matriculation substance disorders (males and females) and MDD (females) predicted subsequent attrition were also found in previous epidemiological studies (Kessler *et al.*, 1995; Eisenberg *et al.*, 2009; Hunt *et al.*, 2010; Mojtabai *et al.*, 2015), but none of these studies provided any evidence that these disorders are causes rather than non-causal correlates. It is plausible to think that the associations are non-causal because risk factors for adolescent substance (Kilpatrick *et al.*, 2000) and mood (Lewinsohn *et al.*, 1998; Costello *et al.*, 2002) disorders have many similarities with risk factors for college attrition (Ishitani & DesJardins, 2002; Stratton *et al.*, 2006; Hartley, 2010), such as high stress, interpersonal discord, and diminished social support, none of which we controlled in our analyses. To the extent that these (or other) joint predictors account for the associations of pre-matriculation mental disorders with college attrition, interventions to detect and treat these pre-existing disorders among entering freshmen would not reduce subsequent attrition. On the other hand, to the extent that the pre-matriculation disorders associated with college attrition represent common causal pathways for many of the more traditional predictors of attrition documented by educational researchers, interventions focused on college entrants with these pre-existing disorders might be of great value in reducing attrition.

There is no definitive way to adjudicate between these competing possibilities with the data presented here. A definitive evaluation would require experimental intervention where students with pre-matriculation disorders were detected and randomized either into best-practices treatments or usual care. Such an intervention would be most feasible in high income countries, where access to outpatient mental health treatment in high, even though there is wide variation in the number of outpatient mental health workers per 100,000 people in the populations of these countries (e.g., 23 in Portugal; 40–46 in the Netherlands, Poland and Spain; 125 in the U.S.; 158 in France) (World Health Organization, 2015). Given the much lower availability of outpatient mental health treatment providers in upper-middle and lower-middle/low income (e.g., 9.5/100,000 in Mexico and 0.9/100,000 in Nigeria), it seems unrealistic to think that resources would be available to provide outpatient treatment for college students in such countries.

In carrying out such an intervention, a question would arise whether the intervention should be limited to active disorders or also include relapse prevention for students with lifetime disorders that were not active at the time of matriculation. The results presented here are moot on this point because the WMH surveys did not collect data on whether disorders with

pre-matriculation onsets were active or remitted at the time of college entry. However, it is noteworthy that 12-month prevalence of the pre-matriculation lifetime disorders associated with subsequent attrition was generally not more common among attriters than students. If pre-matriculation lifetime disorders were causal risk factors rather than risk markers for subsequent attrition, we would expect that 12-month presence of these same disorders would predict subsequent attrition, in which case our failure to find higher 12-month prevalence among attriters than students might be taken as evidence that these pre-matriculation disorders were risk markers rather than causal risk factors. It is important to recognize, though, that questions about disorder recency were not sufficiently specific in the WMH surveys to allow us to determine prevalence in the 12-months prior to attrition. As a result, our failure to find higher 12-month prevalence among attriters than students could be due to the consequences of attrition (e.g., being dismissed from college leading to a reduction in the heavy substance use that led to the dismissal). A similar kind of reciprocal influence might account for the fact that disorders with post-matriculation onsets were not more common among attriters than students.

Several limitations of our study are noteworthy. Some of these involve sampling. Perhaps the most obvious one is that the number of college students in the WMH surveys was too small to support separate analyses in each country. We carried out some cross-national analyses comparing results in high, upper-middle, and lower-middle/low income countries, but this level of disaggregation was less complete than we would have been preferred. The small sample sizes also resulted in wide confidence intervals of estimates, with many of the odds-ratios considered significant having confidence intervals where one bound was very close to 1.0 and in a number of cases rounded to 1.0 with a single decimal of precision. Another sampling-related limitation is that not all WMH surveys included group housing in their sample frames. This means that these surveys under-represented students living in campus dormitories or fraternity-sorority houses. Most WMH surveys also failed to distinguish between students living in off-campus housing with their families versus with roommates. These sample limitation have the potential to be important in that some mental disorders (e.g., separation anxiety disorder, substance disorders) are likely to be higher among students living away from home and possibly more so in group housing than elsewhere.

Another set of limitation involves the assessment of mental disorders. Lifetime mental disorders and ages-of-onset were assessed retrospectively. Although the WMH assessment used procedures shown experimentally to improve accuracy of recall (Scott *et al.*, 2014), there are likely to be downward biases in reports of lifetime prevalence and possibly also in dating age-of-onset of disorders due to recall errors. It is unclear whether these biases would be different for students, attriters, and respondents who never entered college. In addition, diagnoses were based on fully-structured lay-administered interviews rather than semi-structured clinical interviews, although the WMH clinical appraisal data are reassuring (Haro *et al.*, 2006). In addition, we assessed only prevalence, not severity, of disorders. This omission could be important given that other research has shown that educational attainment is associated not only with prevalence but also severity of mental disorders (Ten Have *et al.*, 2013).

A third set of limitations involves the imprecision in our information on timing of disorder onset, matriculation, and attrition. This imprecision made it impossible for us to draw firm distinctions between mental disorders that occurred before versus after matriculation or, in the case of disorders with clear post-matriculation onsets, those that occurred before versus subsequent to attrition. Importantly, we dealt with this limitation by erring on the side of being conservative by considering only disorders with onsets prior to age 18 as being pre-matriculation disorders. As a result, correction of this problem would only lead to an increase in the strength of our finding that the vast majority of the disorders of college students are pre-matriculation disorders.

Despite these limitations, our results are clear in showing that mental disorders are common among college students around the world, that the vast majority of these disorders have pre-matriculation onsets (which, if anything, were under-estimated by our lack of precision in the dating of matriculation), and that pre-matriculation mental disorders are associated both with failure to enter college and with attrition. We also found that only a small minority of college students with mental disorders receive even minimally adequate treatment and that the treatment rate is even lower in low-income countries. These results could have important human capital implications that would make it cost-effective from a societal perspective to invest in screening and increased treatment of college student mental disorders.

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Appendix

Appendix Table 1

WMH sample characteristics by World Bank income categories[1]

Country by income category	Survey[2]	Sample characteristics[3]	Field dates	Age range	Response rate[4]	Sample Part 1	Part 2
I. Low and lower middle income countries							
China - Beijing/Shanghai	B-WMH/S-WMH	Beijing and Shanghai metropolitan areas.	2002–3	18–70	74.7	5,201	1,628
China - Shenzhen[5]	Shenzhen	Shenzhen metropolitan area. Included temporary residents as well as household residents.	2006–7	18–88	80.0	7,132	2,475
Colombia	NSMH	All urban areas of the country (approximately 73% of the total national population)	2003	18–65	87.7	4,426	2,381
Iraq	IMHS	Nationally representative.	2006–7	18–96	95.2	4,332	4,332
Nigeria	NSMHW	21 of the 36 states in the country, representing 57% of the national population. The surveys were conducted in Yoruba, Igbo, Hausa and Efik languages.	2002–3	18–100	79.3	6,752	2,143
Peru	EMSMP	Nationally representative.	2004–5	18–65	90.2	3,930	1,801
Total					82.9	(31,773)	(14,76
II. Upper-middle income countries							
Brazil - São Paulo	São Paulo Megacity	São Paulo metropolitan area.	2005–7	18–93	81.3	5,037	2,942
Bulgaria	NSHS	Nationally representative.	2003–7	18–98	72.0	5,318	2,233
Colombia - Medellin[6]	MMHHS	Medellin metropolitan area	2011–12	19–65	97.2	3,261	1,673
Lebanon	LEBANON	Nationally representative.	2002–3	18–94	70.0	2,857	1,031
Mexico	M-NCS	All urban areas of the country (approximately 75% of the total national population).	2001–2	18–65	76.6	5,782	2,362
Romania	RMHS	Nationally representative.	2005–6	18–96	70.9	2,357	2,357

Country by income category	Survey[2]	Sample characteristics[3]	Field dates	Age range	Response rate[4]	Sample Part 1	Part 2
Total					77.2	(24,612)	(12,59
III. High income countries							
Australia5	NSMHWB	Nationally representative.	2007	18–85	60.0	8,463	8,463
Belgium	ESEMeD	Nationally representative. The sample was selected from a national register of Belgium residents	2001–2	18–95	50.6	2,419	1,043
France	ESEMeD	Nationally representative. The sample was selected from a national list of households with listed telephone numbers.	2001–2	18–97	45.9	2,894	1,436
Italy	ESEMeD	Nationally representative. The sample was selected from municipality resident registries.	2001–2	18–100	71.3	4,712	1,779
Netherlands	ESEMeD	Nationally representative. The sample was selected from municipal postal registries.	2002–3	18–95	56.4	2,372	1,094
New Zealand[5]	NZMHS	Nationally representative.	2003–4	18–98	73.3	12,790	7,312
Northern Ireland	NISHS	Nationally representative.	2004–7	18–97	68.4	4,340	1,986
Poland	EZOP	Nationally representative.	2010–11	18–65	50.4	10,081	4,000
Portugal	NMHS	Nationally representative.	2008–9	18–81	57.3	3,849	2,060
Spain	ESEMeD	Nationally representative.	2001–2	18–98	78.6	5,473	2,121
United States	NCS-R	Nationally representative.	2002–3	18–99	70.9	9,282	5,692
Total					80.6	(20,940)	(11,10
IV. Total					71.4	(51,002)	(25,81

[1] The World Bank (2012) Data. Accessed May 12, 2012 at: http://data.worldbank.org/country. Some of the WMH countries have moved into new income categories since the surveys were conducted. The income groupings above reflect the status of each country at the time of data collection. The current income category of each country is available at the preceding URL.

[2] NSMH (The Colombian National Study of Mental Health); IMHS (Iraq Mental Health Survey); NSMHW (The Nigerian Survey of Mental Health and Wellbeing); B-WMH (The Beijing World Mental Health Survey); S-WMH (The Shanghai World Mental Health Survey); EMSMP (La Encuesta Mundial de Salud Mental en el Peru); (Bulgaria National Survey of Health and Stress); MMHHS (Medellín Mental Health Household Study); LEBANON (Lebanese Evaluation of the Burden of Ailments and Needs of the Nation); M-NCS (The Mexico National Comorbidity Survey); RMHS (Romania Mental Health Survey); NSMHWB (National Survey of Mental Health and Wellbeing); ESEMeD (The European Study Of The Epidemiology Of Mental Disorders); NZMHS (New Zealand Mental Health Survey); NISHS (Northern Ireland Study of Health and Stress); EZOP (Epidemiology of Mental Disorders and Access to Care Survey); NMHS (Portugal National Mental Health Survey); PEGASUS-Murcia (Psychiatric Enquiry to General Population in Southeast Spain-Murcia); NCS-R (The US National Comorbidity Survey Replication).

[3] Most WMH surveys are based on stratified multistage clustered area probability household samples in which samples of areas equivalent to counties or municipalities in the US were selected in the first stage followed by one or more subsequent stages of geographic sampling (e.g., towns within counties, blocks within towns, households within blocks) to arrive at a sample of households, in each of which a listing of household members was created and one or two people were selected from this listing to be interviewed. No substitution was allowed when the originally sampled household resident could not be interviewed. These household samples were selected from Census area data in all countries other than France (where telephone directories were used to select households) and the Netherlands (where postal registries were used to select

households). Several WMH surveys (Belgium, Italy) used municipal resident registries to select respondents without listing households. 16 of the 23 surveys are based on nationally representative household samples.

[4]The response rate is calculated as the ratio of the number of households in which an interview was completed to the number of households originally sampled, excluding from the denominator households known not to be eligible either because of being vacant at the time of initial contact or because the residents were unable to speak the designated languages of the survey. The weighted average response rate is 71.4%.

[5]For the purposes of cross-national comparisons we limit the sample to those 18+.

[6]Colombia moved from the "lower and lower-middle income" to the "upper-middle income" category between 2003 (when the Colombian National Study of Mental Health was conducted) and 2010 (when the Medellin Mental Health Household Study was conducted), hence Colombia's appearance in both income categories. For more information, please see footnote 1.

Appendix Table 2

Distribution of Part II WMH survey respondents ages 18–22 in participating surveys by country income level and respondent education and student status[1]

	College entrants				Other respondents who were secondary school…				Total
	Students		Attriters		Graduates		Non-graduates		
	%	(se)	%	(se)	%	(se)	%	(se)	(n)
I. Low and lower-middle									
China - Beijing/Shanghai	59.0	(5.3)	13.9	(2.7)	20.9	(4.1)	6.2	(1.7)	(133)
China - Shenzhen	4.1	(0.4)	10.6	(1.4)	30.2	(2.5)	55.1	(2.6)	(426)
Colombia	32.6	(5.3)	13.3	(2.5)	30.3	(3.5)	23.9	(2.9)	(337)
Iraq	18.8	(2.6)	3.0	(0.8)	8.7	(2.1)	69.4	(2.4)	(561)
Nigeria	44.0	(4.3)	2.3	(0.6)	23.1	(3.2)	30.6	(3.7)	(217)
Peru	40.7	(3.7)	8.2	(1.7)	39.1	(3.0)	12.0	(2.3)	(251)
II. Upper-middle									
Brazil - São Paulo	7.1	(2.4)	13.5	(2.6)	55.9	(3.8)	23.5	(3.1)	(262)
Bulgaria	34.9	(4.9)	0.4	(0.4)	41.4	(4.2)	23.4	(4.1)	(74)
Colombia - Medellin	59.0	(7.1)	13.6	(3.3)	13.0	(3.7)	14.4	(4.8)	(147)
Lebanon	42.6	(5.0)	6.7	(2.6)	15.0	(4.7)	35.7	(4.5)	(79)
Mexico	23.1	(2.6)	4.7	(1.2)	12.0	(1.9)	60.2	(3.3)	(372)
Romania	27.3	(7.2)	0.5	(0.0)	26.9	(5.5)	45.3	(7.4)	(102)
III. High									
Australia	44.0	(2.3)	16.5	(1.7)	17.1	(1.8)	22.4	(1.9)	(649)
Belgium	39.9	(8.9)	29.7	(7.2)	26.6	(6.3)	3.7	(2.1)	(41)
France	15.3	(4.5)	26.7	(6.4)	58.1	(6.4)	0.0	(0.0)	(76)
Italy	19.3	(3.2)	14.8	(3.9)	40.3	(3.7)	25.6	(4.2)	(108)
Netherlands	56.5	(7.7)	34.7	(7.2)	4.6	(3.2)	4.2	(1.3)	(31)
New Zealand	30.0	(3.8)	5.3	(1.1)	25.0	(2.4)	39.7	(3.1)	(545)
Northern Ireland	35.1	(3.8)	37.0	(5.1)	27.9	(4.6)	0.0	(0.0)	(144)
Poland	42.5	(3.4)	0.2	(0.2)	41.6	(2.7)	15.6	(2.1)	(432)
Portugal	46.8	(3.6)	1.9	(0.4)	19.0	(2.8)	32.4	(4.4)	(113)
Spain	49.8	(4.7)	23.3	(4.7)	6.9	(1.8)	20.0	(3.0)	(113)
United States	23.7	(3.5)	21.5	(2.1)	34.2	(3.6)	20.5	(2.4)	(537)

[1]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

Appendix Table 3

Distribution of Part II WMH male survey respondents ages 18–22 in participating surveys by education and student status[1]

	College entrants				Other respondents who were secondary school…				Total
	Students		Attriters		Graduates		Non-graduates		
	%	(se)	%	(se)	%	(se)	%	(se)	(n)
I. Low and lower-middle									
China - Beijing/Shanghai	57.4	(7.8)	8.1	(2.4)	22.8	(5.8)	11.8	(2.8)	(74)
China - Shenzhen	6.1	(1.0)	11.2	(3.3)	30.3	(4.6)	52.5	(5.7)	(163)
Colombia	27.6	(6.1)	13.6	(3.6)	32.7	(5.4)	26.1	(3.8)	(138)
Iraq	21.7	(3.9)	3.9	(1.4)	9.0	(2.6)	65.3	(4.3)	(277)
Nigeria	55.1	(5.8)	2.9	(0.6)	14.4	(3.6)	27.5	(4.8)	(107)
Peru	39.7	(4.0)	7.2	(2.0)	41.5	(3.5)	11.5	(4.3)	(125)
II. Upper-middle									
Brazil - São Paulo	4.9	(2.2)	13.3	(4.6)	60.3	(5.1)	21.5	(5.1)	(110)
Bulgaria	37.6	(5.9)	0.0	(0.0)	40.3	(5.9)	22.1	(6.3)	(32)
Colombia - Medellin	65.4	(9.8)	9.1	(3.2)	9.2	(3.6)	16.2	(8.3)	(65)
Lebanon	53.0	(6.4)	1.0	(1.0)	13.3	(3.8)	32.8	(6.3)	(33)
Mexico	24.1	(4.0)	4.8	(1.8)	11.8	(2.3)	59.4	(4.4)	(155)
Romania	22.8	(7.7)	1.0	(0.2)	33.9	(9.0)	42.3	(7.8)	(44)
III. High									
Australia	47.8	(3.2)	14.2	(2.1)	17.3	(2.4)	20.8	(2.4)	(302)
Belgium	40.9	(14.1)	18.3	(9.0)	36.6	(12.6)	4.2	(3.5)	(16)
France	12.5	(6.7)	32.9	(9.5)	54.6	(9.6)	0.0	(0.0)	(34)
Italy	24.8	(5.0)	20.4	(6.9)	29.1	(3.6)	25.7	(7.2)	(44)
Netherlands	38.6	(12.8)	54.4	(12.6)	7.1	(5.7)	0.0	(0.0)	(13)
New Zealand	25.4	(4.1)	4.0	(1.4)	26.8	(3.2)	43.9	(4.0)	(236)
Northern Ireland	37.1	(7.1)	36.5	(8.7)	26.4	(6.6)	0.0	(0.0)	(62)
Poland	38.1	(4.6)	0.5	(0.5)	42.3	(4.0)	19.0	(3.1)	(201)
Portugal	43.3	(6.5)	3.1	(0.4)	14.4	(4.9)	39.2	(7.0)	(48)
Spain	57.1	(6.4)	17.2	(4.5)	10.3	(2.8)	15.3	(5.8)	(51)
United States	23.5	(4.8)	20.5	(2.3)	30.5	(3.8)	25.6	(3.3)	(237)

[1] Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

Appendix Table 4

Distribution of Part II WMH female survey respondents ages 18–22 in participating surveys by education and student status[1]

	College entrants				Other respondents who were secondary school…				Total
	Students		Attriters		graduates		non-graduates		
	%	(se)	%	(se)	%	(se)	%	(se)	(n)
I. Low and lower-middle									
China - Beijing/Shanghai	60.8	(6.1)	20.3	(4.9)	18.8	(5.8)	0.0	(0.0)	(59)
China - Shenzhen	3.0	(0.9)	10.3	(1.7)	30.2	(3.5)	56.6	(4.1)	(263)
Colombia	36.8	(7.8)	13.0	(3.7)	28.3	(4.9)	22.0	(4.2)	(199)
Iraq	15.6	(3.1)	2.0	(0.6)	8.4	(2.6)	74.0	(3.4)	(284)
Nigeria	33.0	(4.6)	1.7	(0.8)	31.6	(5.2)	33.7	(4.5)	(110)
Peru	41.6	(5.2)	9.1	(2.9)	36.9	(4.8)	12.5	(2.8)	(126)
II. Upper-middle									
Brazil - São Paulo	9.5	(4.2)	13.6	(3.3)	51.3	(5.1)	25.6	(3.9)	(152)
Bulgaria	31.7	(8.8)	0.8	(0.9)	42.6	(7.4)	24.9	(6.3)	(42)
Colombia - Medellin	51.7	(8.6)	18.6	(5.8)	17.3	(6.6)	12.3	(4.3)	(82)
Lebanon	28.3	(6.4)	14.6	(5.0)	17.4	(8.6)	39.8	(7.5)	(46)
Mexico	22.0	(4.0)	4.6	(1.7)	12.2	(3.2)	61.2	(5.5)	(217)
Romania	31.3	(10.2)	0.0	(0.0)	20.8	(5.0)	47.9	(10.9)	(58)
III. High									
Australia	40.0	(3.0)	18.9	(2.4)	16.9	(2.6)	24.1	(2.7)	(347)
Belgium	38.5	(8.5)	45.2	(7.0)	13.2	(6.7)	3.1	(0.5)	(25)
France	18.5	(4.1)	19.3	(7.1)	62.2	(8.3)	0.0	(0.0)	(42)
Italy	13.8	(4.2)	9.0	(1.6)	51.8	(6.3)	25.4	(4.9)	(64)
Netherlands	80.8	(5.3)	8.1	(2.3)	1.3	(0.7)	9.9	(3.7)	(18)
New Zealand	34.4	(4.9)	6.6	(1.7)	23.3	(3.0)	35.7	(3.8)	(309)
Northern Ireland	33.1	(4.0)	37.5	(5.5)	29.4	(4.3)	0.0	(0.0)	(82)
Poland	46.7	(3.7)	0.0	(0.0)	40.9	(3.4)	12.3	(2.6)	(231)
Portugal	50.1	(3.6)	0.8	(0.7)	23.3	(4.5)	25.8	(5.7)	(65)
Spain	43.3	(5.0)	28.7	(7.6)	3.9	(2.2)	24.1	(4.1)	(62)
United States	24.0	(3.8)	22.5	(4.0)	37.9	(4.9)	15.6	(3.4)	(300)

[1]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

Appendix Table 5

Pooled 12-month prevalence of DSM-IV/CIDI mental disorders separately among male respondents ages 18–22 who were current students, college attriters, and nonstudents in the same age range[1]

Students (ST)		Attriters (AT)		Other (OT)		ST:AT[2]		ST:OT[2]		
%	(se)	%	(se)	%	(se)	OR	(95 % CI)	OR	(95 % CI)	AUC[3]

	Students (ST)		Attriters (AT)		Other (OT)		ST:AT[2]		ST:OT[2]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	OR	(95 % CI)	AUC[3]
I. Anxiety disorders											
Separation Anxiety Disorder	1.9	(1.4)	0.7	(0.3)	1.0	(0.3)	3.4	(0.6–19.3)	2.0	(0.4–11.0)	0.81
Panic Disorder	1.5	(0.6)	0.7	(0.5)	1.0	(0.2)	5.2	(0.8–34.1)	1.4	(0.6–3.3)	0.75
GAD	0.2	(0.1)	0.8	(0.5)	0.8	(0.3)	0.4	(0.1–3.2)	0.3	(0.1–1.1)	0.74
Any Phobia	5.3	(1.0)	8.1	(2.7)	6.8	(0.7)	0.7	(0.3–1.4)	0.7	(0.5–1.1)	0.69
PTSD	0.7	(0.4)	0.8	(0.5)	0.6	(0.3)	1.7	(0.3–8.8)	1.1	(0.3–4.8)	0.75
Any	8.6	(1.7)	10.0	(2.7)	8.6	(0.8)	1.0	(0.5–2.0)	1.0	(0.6–1.6)	0.66
II. Mood disorders											
MDD	3.2	(0.7)	6.0	(1.2)	3.7	(0.5)	0.8	(0.4–1.7)	0.8	(0.5–1.3)	0.62
Bipolar	1.1	(0.3)	2.2	(0.6)	2.9	(0.5)	0.7	(0.3–1.9)	0.3*	(0.2–0.7)	0.79
Any	4.3	(0.8)	8.3	(1.3)	6.6	(0.7)	0.8	(0.4–1.5)	0.6*	(0.4–0.9)	0.68
III. Behavior disorders											
ADHD	0.5	(0.2)	2.0	(1.3)	0.7	(0.2)	0.3	(0.1–1.4)	0.6	(0.2–1.8)	0.83
Conduct Disorder	0.3	(0.2)	0.8	(0.7)	0.7	(0.2)	0.3	(0.0–3.5)	0.4	(0.1–1.8)	0.84
ODD	0.4	(0.2)	1.0	(0.7)	0.5	(0.2)	0.3	(0.1–1.7)	0.7	(0.2–2.8)	0.86
IED	3.1	(0.7)	3.0	(1.0)	2.8	(0.4)	1.0	(0.5–2.0)	1.0	(0.6–1.7)	0.80
Any	4.1	(0.8)	5.9	(1.7)	4.3	(0.5)	0.7	(0.3–1.3)	0.8	(0.5–1.3)	0.77
IV. Substance disorders											
Alcohol Abuse	3.3	(0.7)	4.7	(1.4)	4.4	(0.5)	0.9	(0.4–2.0)	0.7	(0.4–1.1)	0.71
Alcohol Dependence	1.4	(0.5)	1.3	(0.5)	2.5	(0.4)	1.2	(0.4–3.5)	0.5	(0.2–1.2)	0.76
Drug Abuse	0.9	(0.5)	1.2	(0.6)	1.6	(0.3)	0.8	(0.2–3.2)	0.5	(0.2–1.6)	0.81
Drug Dependence	0.4	(0.3)	1.2	(0.7)	1.4	(0.3)	0.5	(0.1–3.1)	0.3*	(0.1–1.0)	0.84
Any	5.7	(1.0)	7.3	(1.6)	8.6	(0.8)	1.0	(0.5–1.9)	0.6	(0.4–0.9)	0.74
V. Total disorders											
Any	17.9	(2.0)	22.3	(3.2)	19.7	(1.2)	0.9	(0.6–1.5)	0.8	(0.6–1.1)	0.68
(n)	(747)		(270)		(1,550)		–		–		–

*Significant at the .05 level, two-sided test

[1]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[2]Based on a pooled within-survey logistic regression model adjusting for between-survey variation in the association of age-sex with student status.

[3]The AUCs were generated from logistic models in which dummy variables for being an attriter or other nonstudent were included as predictors of the mental disorder in the row heading or, in the case of Part VI, number of disorders estimated in an order logistic framework, controlling age-sex and survey.

Appendix Table 6

Pooled 12-month prevalence of DSM-IV/CIDI mental disorders separately among female respondents ages 18–22 who were current students, college attriters, and nonstudents in the same age range[1]

	Students (ST)		Attriters (AT)		Other (OT)		ST:AT[2]		ST:OT[2]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	OR	(95 % CI)	AUC[3]
I. Anxiety disorders											

	Students (ST)		Attriters (AT)		Other (OT)		ST:AT[2]		ST:OT[2]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	OR	(95 % CI)	AUC[3]
Separation Anxiety Disorder	0.7	(0.2)	2.2	(0.9)	1.4	(0.2)	0.4	(0.2–1.1)	0.4*	(0.2–0.9)	0.86
Panic Disorder	1.0	(0.2)	1.5	(0.4)	1.7	(0.3)	1.4	(0.7–2.9)	0.5*	(0.3–0.9)	0.75
GAD	0.7	(0.2)	0.8	(0.3)	0.8	(0.2)	1.2	(0.4–3.4)	0.7	(0.4–1.5)	0.75
Any Phobia	12.8	(2.0)	13.8	(1.4)	12.8	(0.9)	1.0	(0.6–1.5)	1.0	(0.7–1.5)	0.66
PTSD	2.0	(0.5)	4.4	(1.0)	3.3	(0.5)	0.8	(0.4–1.6)	0.5*	(0.3–0.9)	0.79
Any	15.1	(2.0)	19.0	(1.8)	17.1	(1.0)	1.0	(0.7–1.4)	0.8	(0.6–1.2)	0.67
II. Mood disorders											
MDD	5.8	(0.8)	9.2	(1.4)	6.3	(0.6)	0.7	(0.4–1.1)	0.9	(0.6–1.3)	0.67
Bipolar	2.5	(0.7)	2.4	(0.7)	2.4	(0.3)	1.5	(0.7–3.5)	1.0	(0.5–1.9)	0.72
Any	7.8	(1.0)	11.5	(1.5)	8.7	(0.7)	0.8	(0.5–1.2)	0.9	(0.6–1.2)	0.68
III. Behavior disorders											
ADHD	0.2	(0.2)	1.1	(0.3)	1.1	(0.2)	0.4	(0.1–2.4)	0.2	(0.0–1.3)	0.83
Conduct Disorder	0.0	(0.0)	0.0	(0.0)	0.2	(0.1)	–	–	–	–	–
ODD	0.0	(0.0)	1.0	(0.7)	0.8	(0.1)	0.0*	(0.0–0.6)	0.0*	(0.0–0.2)	0.85
IED	1.5	(0.4)	3.1	(0.9)	2.1	(0.3)	0.5	(0.3–1.1)	0.7	(0.4–1.4)	0.83
Any	1.6	(0.4)	4.8	(1.1)	3.3	(0.4)	0.4	(0.2–0.8)	0.4*	(0.3–0.8)	0.82
IV. Substance disorders											
Alcohol Abuse	1.7	(0.3)	3.7	(1.2)	1.9	(0.4)	0.6	(0.3–1.3)	0.8	(0.4–1.4)	0.80
Alcohol Dependence	1.3	(0.5)	2.0	(0.9)	0.6	(0.2)	1.3	(0.4–4.7)	1.8	(0.7–4.8)	0.77
Drug Abuse	0.5	(0.2)	1.4	(0.8)	0.4	(0.1)	0.6	(0.2–2.1)	1.1	(0.5–2.4)	0.83
Drug Dependence	0.1	(0.1)	1.1	(0.5)	0.4	(0.1)	0.1*	(0.0–0.7)	0.2	(0.0–1.2)	0.81
Any	3.3	(0.6)	6.2	(1.6)	3.0	(0.4)	0.8	(0.4–1.6)	0.9	(0.6–1.5)	0.78
V. Total disorders											
Any	22.8	(2.1)	27.5	(2.4)	23.1	(1.1)	1.0	(0.7–1.4)	0.9	(0.7–1.2)	0.68
(n)	(825)		(432)		(1,926)			–		–	–

*Significant at the .05 level, two-sided test

[1]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[2]Based on a pooled within-survey logistic regression model adjusting for between-survey variation in the association of age-sex with student status.

[3]The AUCs were generated from logistic models in which dummy variables for being an attriter or other nonstudent were included as predictors of the mental disorder in the row heading or, in the case of Part VI, number of disorders estimated in an order logistic framework, controlling age-sex and survey.

Appendix Table 7

Pooled percentages of 12-month DSM-IV/CIDI disorders with pre-matriculation onsets[1] separately among male respondents ages 18–22 who were current students, college attriters, and nonstudents[2] in the same age range[3]

	Students (ST)		Attriters (AT)		Other[4] (OT)		ST vs. AT	ST vs. OT
	%	(se)	%	(se)	%	(se)	χ^2	χ^2
I. Anxiety disorders								
Separation Anxiety Disorder	79.6	(18.1)	51.9	(23.5)	75.0	(9.7)	0.0	0.2

	Students (ST)		Attriters (AT)		Other[4] (OT)		ST vs. AT	ST vs. OT
	%	(se)	%	(se)	%	(se)	χ^2	χ^2
Panic Disorder	28.1	(15.5)	100.0	(0.0)	67.9	(8.5)	–	0.4
GAD	24.5	(19.6)	77.0	(21.7)	78.3	(11.5)	53.2*	742.2*
Any Phobia	93.4	(4.5)	77.5	(10.9)	98.8	(0.7)	0.3	7.9*
PTSD	65.2	(23.2)	100.0	(0.0)	75.9	(14.4)	–	0.0
Any	88.0	(3.9)	78.3	(9.0)	93.6	(1.6)	0.0	3.1
II. Mood disorders								
MDD	31.4	(9.9)	51.9	(10.0)	58.3	(6.5)	0.1	3.6
Bipolar	68.8	(14.9)	72.1	(10.9)	66.9	(7.0)	0.7	0.0
Any	40.7	(8.6)	57.4	(8.5)	61.6	(5.2)	0.4	2.2
III. Behavior disorders								
ADHD	100.0	(0.0)	100.0	(0.0)	100.0	(0.0)	–	–
Conduct Disorder	100.0	(0.0)	100.0	(0.0)	100.0	(0.0)	–	–
ODD	100.0	(0.0)	100.0	(0.0)	97.4	(2.7)	–	–
IED	94.8	(3.1)	94.3	(3.4)	88.1	(3.5)	0.0	0.6
Any	96.0	(2.4)	97.0	(1.7)	94.2	(1.9)	0.0	0.0
IV. Substance disorders								
Alcohol Abuse	32.8	(7.8)	66.1	(13.8)	44.1	(6.0)	10.9*	3.3
Alcohol Dependence	44.1	(18.9)	33.7	(17.5)	51.2	(7.2)	0.2	0.8
Drug Abuse	72.0	(18.3)	60.2	(21.4)	58.7	(9.4)	0.5	0.1
Drug Dependence	100.0	(0.0)	76.9	(17.6)	60.7	(9.7)	–	–
Any	58.4	(8.1)	65.2	(10.4)	58.2	(4.2)	0.3	0.2
V. Total disorders								
Any	78.3	(3.8)	81.4	(4.9)	84.9	(2.1)	0.9	4.5*

*Significant at the .05 level.

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]Post-matriculation onset disorders were defined as those with onsets at ages 18+.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]"All other" respondents were defined as those who never entered college whether or not they graduated from secondary school.

Appendix Table 8

Pooled percentages of 12-month DSM-IV/CIDI disorders with pre-matriculation onsets[1] separately among female respondents ages 18–22 who were current students, college attriters, and nonstudents[2] in the same age range[3]

	Students (ST)		Attriters (AT)		Other[4] (OT)		ST vs. AT	ST vs. OT
	%	(se)	%	(se)	%	(se)	χ^2	χ^2
I. Anxiety disorders								
Separation Anxiety Disorder	42.0	(13.1)	42.9	(21.7)	54.0	(8.5)	0.3	2.3
Panic Disorder	80.0	(5.4)	64.6	(16.5)	93.7	(3.7)	0.0	0.5
GAD	75.4	(8.4)	24.0	(15.4)	75.5	(6.5)	272.1*	1.6

	Students (ST)		Attriters (AT)		Other[4] (OT)		ST vs. AT	ST vs. OT
	%	(se)	%	(se)	%	(se)	χ^2	χ^2
Any Phobia	96.6	(0.7)	96.4	(1.6)	97.0	(1.3)	0.2	0.4
PTSD	56.2	(11.6)	69.6	(10.2)	77.6	(5.6)	0.0	1.3
Any	93.9	(1.5)	91.1	(2.3)	93.9	(1.4)	0.1	0.0
II. Mood disorders								
MDD	66.7	(6.0)	70.4	(7.3)	68.6	(3.9)	1.6	1.2
Bipolar	57.9	(14.3)	47.1	(15.6)	55.9	(6.8)	0.3	0.1
Any	68.7	(5.2)	69.1	(6.9)	65.6	(3.4)	1.3	0.0
III. Behavior disorders								
ADHD	100.0	(0.0)	100.0	(0.0)	100.0	(0.0)	–	–
Conduct Disorder	–	–	–	–	100.0	(0.0)	–	–
ODD	100.0	(0.0)	100.0	(0.0)	100.0	(0.0)	–	–
IED	81.2	(14.9)	75.2	(12.6)	88.4	(4.9)	0.9	0.9
Any	81.4	(14.8)	86.3	(8.3)	94.3	(3.0)	1.4	1.6
IV. Substance disorders								
Alcohol Abuse	24.0	(10.2)	47.5	(17.3)	42.4	(8.6)	4.2*	1.1
Alcohol Dependence	19.3	(14.1)	31.5	(17.6)	23.0	(9.2)	320.2*	2.2
Drug Abuse	20.3	(13.3)	46.0	(30.3)	73.1	(9.4)	2.5	2.6
Drug Dependence	100.0	(0.0)	55.9	(24.1)	61.1	(18.2)	–	–
Any	24.9	(8.5)	56.8	(13.0)	48.9	(6.6)	6.3*	3.0
V. Total disorders								
Any	87.1	(2.2)	85.2	(3.9)	89.9	(1.5)	0.2	1.3

*Significant at the .05 level.

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]Post-matriculation onset disorders were defined as those with onsets at ages 18+.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]"All other" respondents were defined as those who never entered college whether or not they graduated from secondary school

Appendix Table 9

Pooled lifetime prevalence of pre-matriculation onset DSM-IV/CIDI mental disorders[1] separately among male respondents ages 18–22 who entered college (both current students and attriters), secondary school graduates in the same age range who never entered college, and all other respondents[2] in the same age range[3]

	College entrants (CE)		Other respondents who were secondary school…									
			Graduates (GR)		Total[4]		CE: GR[5]			CE: Total[5]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)	AU
I. Anxiety disorders												
Separation Anxiety Disorder	2.8	(0.4)	3.9	(0.7)	3.4	(0.5)	0.8	(0.3–2.2)	0.85	0.8	(0.3–1.8)	0.8
Panic Disorder	1.0	(0.2)	1.2	(0.2)	0.9	(0.2)	0.7	(0.3–1.7)	0.69	1.1	(0.4–2.8)	0.6

	College entrants (CE)		Other respondents who were secondary school…									
			Graduates (GR)		Total[4]			CE: GR[5]			CE: Total[5]	
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)	AU
GAD	0.7	(0.2)	1.1	(0.2)	0.9	(0.3)	0.5	(0.2–1.7)	0.74	0.7	(0.2–1.9)	0.7
Any Phobia	8.9	(0.5)	10.1	(0.9)	9.3	(0.8)	0.8	(0.5–1.3)	0.65	0.9	(0.6–1.3)	0.6
PTSD	0.9	(0.3)	1.0	(0.6)	0.8	(0.3)	0.8	(0.2–4.3)	0.75	0.9	(0.2–3.2)	0.7
Any	12.7	(0.8)	13.9	(1.0)	12.3	(0.9)	0.9	(0.6–1.3)	0.66	1.0	(0.7–1.4)	0.6
II. Mood disorders												
MDD	3.9	(0.5)	4.7	(0.5)	4.5	(0.5)	0.6	(0.4–1.0)	0.66	0.6*	(0.4–0.9)	0.6
Bipolar	2.4	(0.5)	3.2	(0.6)	2.8	(0.5)	0.7	(0.3–1.4)	0.75	0.7	(0.4–1.3)	0.7
Any	6.2	(0.7)	7.7	(0.8)	7.2	(0.7)	0.7	(0.4–1.0)	0.68	0.7*	(0.5–1.0)	0.6
III. Behavior disorders												
ADHD	2.7	(0.4)	2.6	(0.2)	2.2	(0.4)	1.0	(0.5–1.9)	0.85	1.0	(0.6–1.7)	0.8
Conduct Disorder	2.1	(0.5)	3.2	(0.4)	3.7	(0.5)	0.6*	(0.3–1.0)	0.88	0.4*	(0.2–0.8)	0.8
ODD	2.7	(0.4)	3.0	(0.5)	3.0	(0.5)	0.9	(0.4–1.7)	0.87	0.8	(0.4–1.3)	0.8
IED	4.2	(0.7)	2.6	(0.3)	3.1	(0.4)	1.7	(1.0–2.8)	0.83	1.2	(0.8–1.9)	0.8
Any	8.2	(0.8)	8.8	(0.7)	8.5	(0.8)	0.9	(0.6–1.3)	0.82	0.8	(0.6–1.1)	0.8
IV. Substance disorders												
Alcohol Abuse	3.0	(0.4)	3.7	(0.5)	4.8	(0.6)	0.7	(0.4–1.2)	0.75	0.5*	(0.3–0.8)	0.7
Alcohol Dependence	1.2	(0.4)	1.1	(0.4)	2.0	(0.3)	1.1	(0.4–2.7)	0.81	0.5	(0.3–1.1)	0.8
Drug Abuse	2.5	(0.4)	2.5	(0.5)	2.8	(0.5)	0.9	(0.5–1.7)	0.79	0.7	(0.4–1.2)	0.7
Drug Dependence	1.1	(0.3)	0.9	(0.2)	1.5	(0.3)	1.2	(0.4–3.7)	0.83	0.7	(0.3–1.5)	0.8
Any	6.6	(0.7)	6.1	(0.7)	8.8	(0.7)	1.0	(0.7–1.5)	0.77	0.6*	(0.4–0.8)	0.7
V. Total disorders												
Any	23.5	(1.1)	24.3	(1.2)	24.8	(1.2)	0.9	(0.7–1.2)	0.70	0.8	(0.6–1.0)	0.7
(n)	(1,017)		(695)		(1,550)							

*Significant at the .05 level, two-sided test

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]"All other" respondents were defined as those who never entered college whether or not graduated from secondary school.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]Secondary school graduates or non-graduates.

[5]Based on a single pooled logistic model for each row in which separate dummy variables for being an attriter or other nonstudent were included as predictors of the mental disorder in the row heading or, in the case of Part VI, number of disorders estimated in an ordered logistic framework, controlling age-sex and survey

Appendix Table 10

Pooled lifetime prevalence of pre-matriculation onset DSM-IV/CIDI mental disorders[1] separately among female respondents ages 18–22 who entered college (both current students and attriters), secondary school graduates in the same age range who never entered college, and all other respondents[2] in the same age range[3]

	College entrants (CE)		Other respondents who were secondary school…									
			Graduates (GR)		Total[4]		CE: GR[5]			CE: Total[5]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)	AU
I. Anxiety disorders												
Separation Anxiety Disorder	2.0	(0.2)	4.5	(0.6)	4.5	(0.6)	0.4*	(0.3–0.8)	0.85	0.4*	(0.2–0.6)	0.8
Panic Disorder	1.2	(0.2)	1.7	(0.3)	1.9	(0.3)	0.5*	(0.3–0.9)	0.71	0.5*	(0.3–0.8)	0.7
GAD	1.1	(0.3)	1.3	(0.2)	1.4	(0.3)	0.7	(0.3–1.4)	0.78	0.6	(0.3–1.2)	0.7
Any Phobia	14.4	(0.9)	17.4	(1.0)	15.7	(1.0)	0.8	(0.6–1.1)	0.66	0.9	(0.7–1.2)	0.6
PTSD	2.9	(0.4)	4.2	(0.6)	3.9	(0.5)	0.5*	(0.3–0.9)	0.80	0.5*	(0.3–0.8)	0.8
Any	18.7	(1.0)	23.7	(1.2)	22.2	(1.2)	0.7*	(0.5–0.9)	0.69	0.7*	(0.6–0.9)	0.6
II. Mood disorders												
MDD	7.9	(0.6)	7.5	(0.5)	7.1	(0.6)	1.0	(0.7–1.4)	0.69	1.0	(0.7–1.4)	0.6
Bipolar	1.8	(0.4)	1.5	(0.3)	2.0	(0.3)	1.2	(0.6–2.1)	0.76	0.9	(0.5–1.5)	0.7
Any	9.7	(0.7)	9.0	(0.6)	9.0	(0.7)	1.0	(0.8–1.4)	0.71	1.0	(0.7–1.2)	0.7
III. Behavior disorders												
ADHD	1.5	(0.2)	1.5	(0.4)	1.9	(0.4)	1.3	(0.5–3.4)	0.85	0.7	(0.4–1.3)	0.8
Conduct Disorder	1.1	(0.1)	2.6	(0.3)	2.0	(0.4)	0.4*	(0.2–0.9)	0.90	0.4*	(0.2–0.7)	0.9
ODD	2.0	(0.3)	3.1	(0.5)	2.8	(0.5)	0.7	(0.3–1.5)	0.86	0.5	(0.3–1.0)	0.8
IED	2.0	(0.3)	2.6	(0.4)	2.3	(0.3)	0.9	(0.6–1.5)	0.84	0.8	(0.5–1.3)	0.8
Any	5.3	(0.4)	6.9	(0.6)	6.6	(0.7)	0.8	(0.5–1.3)	0.83	0.6*	(0.5–0.9)	0.8
IV. Substance disorders												
Alcohol Abuse	1.9	(0.4)	3.4	(0.4)	3.1	(0.4)	0.4*	(0.2–0.8)	0.82	0.4*	(0.2–0.7)	0.8
Alcohol Dependence	0.5	(0.1)	0.6	(0.1)	0.6	(0.1)	0.9	(0.3–2.3)	0.89	0.8	(0.4–1.7)	0.8
Drug Abuse	0.9	(0.3)	1.5	(0.2)	1.8	(0.3)	0.5	(0.2–1.1)	0.87	0.4*	(0.2–0.8)	0.8
Drug Dependence	0.8	(0.2)	1.1	(0.3)	0.9	(0.2)	0.6	(0.3–1.6)	0.81	0.7	(0.3–1.4)	0.8
Any	3.3	(0.5)	5.3	(0.5)	5.2	(0.5)	0.5*	(0.3–0.8)	0.83	0.4*	(0.3–0.7)	0.8
V. Total disorders												
Any	27.1	(1.2)	31.8	(1.3)	29.4	(1.3)	0.7*	(0.6–0.9)	0.71	0.8*	(0.6–1.0)	0.7
(n)	(1,257)		(876)		(1,926)							

*Significant at the .05 level, two-sided test

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]"All other" respondents were defined as those who never entered college whether or not graduated from secondary school.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]Secondary school graduates or non-graduates.

[5]Based on a single pooled logistic model for each row in which separate dummy variables for being an attriter or other nonstudent were included as predictors of the mental disorder in the row heading or, in the case of Part VI, number of disorders estimated in an ordered logistic framework, controlling age-sex and survey.

Appendix Table 11

Pooled lifetime prevalence of pre-matriculation[1] and post-matriculation[2] onset DSM-IV/CIDI mental disorders separately among male respondents ages 18–22 who were current students or college attriters[3]

	Students (ST)				Attriters (AT)				Students vs. Attriters				
	Pre-		Post-		Pre-		Post-		Pre-[4]			Post-[4]	
	%	(se)	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)
I. Anxiety disorders													
Separation Anxiety Disorder	3.7	(1.5)	1.0	(0.3)	0.8	(0.5)	0.6	(0.3)	3.7	(0.9–15.9)	0.91	2.7	(0.7–10.2)
Panic Disorder	1.0	(0.5)	1.1	(0.5)	1.0	(0.6)	0.0	(0.0)	1.1	(0.3–4.7)	0.67	115.4*	(9.3–999.9+)
GAD	0.5	(0.3)	0.3	(0.1)	1.2	(0.7)	0.3	(0.2)	0.5	(0.1–2.4)	0.74	1.9	(0.3–11.7)
Any Phobia	8.9	(1.2)	0.4	(0.3)	8.8	(2.7)	2.0	(0.9)	1.2	(0.6–2.3)	0.66	0.2	(0.0–1.6)
PTSD	0.6	(0.3)	0.3	(0.2)	1.5	(0.9)	0.0	(0.0)	0.7	(0.2–3.5)	0.76	–	–
Any	13.2	(1.9)	1.7	(0.4)	11.4	(2.8)	3.0	(1.0)	1.3	(0.7–2.5)	0.66	1.0	(0.4–2.6)
II. Mood disorders													
MDD	3.2	(0.6)	3.0	(0.7)	5.6	(1.3)	4.4	(1.2)	0.9	(0.4–1.8)	0.66	1.1	(0.4–2.9)
Bipolar	1.8	(0.5)	0.5	(0.2)	3.6	(1.1)	1.1	(0.4)	0.5	(0.2–1.3)	0.75	0.7	(0.2–3.3)
Any	5.0	(0.8)	3.5	(0.7)	9.2	(1.8)	5.7	(1.4)	0.7	(0.4–1.3)	0.68	1.0	(0.4–2.4)
III. Behavior disorders													
ADHD	2.2	(0.7)	0.0	(0.0)	3.7	(1.4)	0.0	(0.0)	0.9	(0.3–2.6)	0.85	–[5]	–
Conduct Disorder	1.7	(0.6)	0.0	(0.0)	3.0	(1.2)	0.0	(0.0)	0.7	(0.2–2.1)	0.87	–[5]	–
ODD	2.2	(0.6)	0.0	(0.0)	3.7	(1.1)	0.0	(0.0)	0.7	(0.3–1.6)	0.87	–[5]	–
IED	4.1	(0.9)	0.2	(0.1)	4.6	(1.1)	0.2	(0.1)	1.0	(0.5–1.9)	0.82	1.2	(0.2–6.9)
Any	7.6	(1.2)	0.2	(0.1)	9.7	(1.9)	0.2	(0.1)	1.0	(0.5–1.8)	0.82	1.1	(0.2–7.0)
IV. Substance disorders													
Alcohol Abuse	2.0	(0.4)	3.5	(0.7)	5.2	(1.3)	8.4	(1.9)	0.4*	(0.2–0.8)	0.75	0.7	(0.4–1.5)
Alcohol Dependence	0.8	(0.4)	1.1	(0.4)	2.0	(0.7)	1.3	(0.5)	0.4	(0.1–1.5)	0.81	1.4	(0.5–4.0)
Drug Abuse	1.3	(0.5)	0.4	(0.2)	5.3	(1.2)	0.7	(0.4)	0.2*	(0.1–0.7)	0.81	0.9	(0.2–4.0)
Drug Dependence	0.6	(0.3)	0.0	(0.0)	2.4	(1.0)	0.5	(0.3)	0.2	(0.1–1.0)	0.82	0.2	(0.0–2.1)
Any	4.5	(0.8)	4.0	(0.8)	11.3	(1.8)	10.3	(2.1)	0.4*	(0.2–0.7)	0.77	0.6	(0.3–1.3)
V. Total disorders													
Any	20.9	(2.2)	7.0	(0.9)	29.5	(3.3)	13.2	(2.3)	0.8	(0.5–1.2)	0.70	0.9	(0.5–1.6)
(n)	(747)		–[6]		(270)		–[7]						

*Significant at the .05 level, two-sided test

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]Post-matriculation onset disorders were defined as those with onsets at ages 18+.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]Based on a pooled within-survey logistic regression equation adjusting for between-survey variation in the association of age-sex with student status

[5]There were no post-matriculation onsets of these disorders by definition, as the CIDI required onsets before age 8 (ADHD) or 18 (Conduct Disorder, Oppositional Defiant Disorder).

[6]Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation varies across disorders from a low of 653 among male students who had no pre-matriculation history of specific phobias to a high of 742 among male students who had no pre-matriculation history of drug dependence, with a median sample size of 731. The sample size for having no pre-matriculation history of any disorder is 544 among male students.

[7]Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation varies across disorders from a low of 239 among male attriters who had no pre-matriculation history of specific phobias to a high of 267 among male attriters who had no pre-matriculation history of panic disorder, with a median sample size of 256. The sample size for having no pre-matriculation history of any disorder is 170 among male attriters.

Appendix Table 12

Pooled lifetime prevalence of pre-matriculation[1] and post-matriculation[2] onset DSM-IV/CIDI mental disorders separately among female respondents ages 18–22 who were current students or college attriters[3]

	Students (ST)				Attriters (AT)				Students vs. Attriters					
	Pre-		Post-		Pre-		Post-		Pre-[4]			Post-[4]		
	%	(se)	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)	AUC
I. Anxiety disorders														
Separation Anxiety Disorder	1.7	(0.5)	0.5	(0.2)	2.8	(0.9)	1.6	(0.5)	0.7	(0.3–1.7)	0.85	0.5	(0.2–1.3)	0.89
Panic Disorder	1.2	(0.2)	0.2	(0.1)	1.3	(0.4)	0.6	(0.3)	1.8	(0.9–3.8)	0.72	0.9	(0.2–3.5)	0.93
GAD	1.0	(0.3)	0.2	(0.0)	1.4	(0.7)	1.4	(0.5)	1.0	(0.3–3.0)	0.77	0.2*	(0.1–0.5)	0.80
Any Phobia	13.8	(2.0)	0.6	(0.1)	15.5	(1.6)	0.6	(0.2)	0.9	(0.6–1.3)	0.66	3.0	(0.9–10.5)	0.71
PTSD	1.6	(0.5)	1.0	(0.2)	5.5	(1.1)	1.4	(0.5)	0.5	(0.2–1.0)	0.82	1.9	(0.8–4.7)	0.79
Any	17.1	(2.0)	1.3	(0.3)	22.0	(2.0)	2.7	(0.7)	0.9	(0.6–1.2)	0.69	1.1	(0.5–2.4)	0.76
II. Mood disorders														
MDD	6.5	(0.9)	3.8	(0.8)	10.8	(1.5)	3.6	(0.9)	0.6*	(0.4–1.0)	0.69	1.7	(0.9–3.3)	0.73
Bipolar	1.9	(0.6)	1.1	(0.5)	1.6	(0.4)	1.4	(0.7)	1.3	(0.6–2.8)	0.75	1.6	(0.4–6.0)	0.78
Any	8.3	(0.9)	4.4	(0.9)	12.3	(1.6)	4.7	(1.1)	0.7	(0.4–1.1)	0.71	1.6	(0.9–2.9)	0.73
III. Behavior disorders														
ADHD	1.5	(0.6)	0.0	(0.0)	1.6	(0.4)	0.0	(0.0)	1.4	(0.6–3.3)	0.83	–[5]	–	–
Conduct Disorder	0.7	(0.3)	0.0	(0.0)	1.9	(0.6)	0.0	(0.0)	0.6	(0.2–1.6)	0.89	–[5]	–	–
ODD	1.5	(0.6)	0.0	(0.0)	2.8	(0.8)	0.0	(0.0)	0.6	(0.2–1.9)	0.85	–[5]	–	–
IED	1.6	(0.3)	0.3	(0.3)	2.9	(0.9)	0.8	(0.5)	0.6	(0.3–1.1)	0.84	0.8	(0.1–5.8)	0.90
Any	4.0	(0.7)	0.3	(0.3)	7.8	(1.3)	0.7	(0.5)	0.6	(0.3–1.0)	0.83	0.9	(0.1–7.7)	0.92
IV. Substance disorders														
Alcohol Abuse	1.0	(0.3)	1.7	(0.3)	3.8	(1.2)	3.1	(1.2)	0.4*	(0.1–0.9)	0.81	1.1	(0.4–2.9)	0.80
Alcohol Dependence	0.4	(0.2)	1.2	(0.5)	0.8	(0.3)	2.1	(1.0)	0.3	(0.1–1.3)	0.89	1.4	(0.4–4.9)	0.81
Drug Abuse	0.5	(0.2)	0.5	(0.1)	1.6	(0.8)	1.7	(0.9)	0.4	(0.1–1.7)	0.87	0.8	(0.3–2.4)	0.86
Drug Dependence	0.2	(0.2)	0.2	(0.1)	1.9	(0.6)	0.7	(0.4)	0.2*	(0.0–0.8)	0.84	0.7	(0.1–5.2)	0.89
Any	1.7	(0.4)	3.1	(0.6)	6.4	(1.5)	5.5	(1.5)	0.4*	(0.2–0.7)	0.84	1.3	(0.7–2.6)	0.82
V. Total disorders														
Any	25.1	(2.4)	6.4	(1.1)	31.0	(2.5)	8.9	(1.8)	0.9	(0.6–1.2)	0.71	1.8	(1.0–3.3)	0.75
(n)	(825)		–[6]		(432)		–[7]							

*Significant at the .05 level, two-sided test

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]Post-matriculation onset disorders were defined as those with onsets at ages 18+.

[3] Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4] Based on a pooled within-survey logistic regression equation adjusting for between-survey variation in the association of age-sex with student status

[5] There were no post-matriculation onsets of these disorders by definition, as the CIDI required onsets before age 8 (ADHD) or 18 (Conduct Disorder, Oppositional Defiant Disorder).

[6] Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation varies across disorders from a low of 683 among female students who had no pre-matriculation history of specific phobias to a high of 821 among female students who had no pre-matriculation history of drug dependence, with a median sample size of 810. The sample size for having no pre-matriculation history of any disorder is 558 among female students.

[7] Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation varies across disorders from a low of 335 among female attriters who had no pre-matriculation history of specific phobias to a high of 425 among female attriters who had no pre-matriculation history of drug abuse, with a median sample size of 418. The sample size for having no pre-matriculation history of any disorder is 259 among female attriters.

Appendix Table 13

Pooled proportions of male respondents with 12-month DSM-IV/CIDI mental disorders who received minimally adequate treatment for these disorders in the 12 months before interview by country income level separately among respondents who were current students, college attriters, and nonstudents in the same age range[1]

	Students			Attriters			Others		
	%	(se)	(n)	%	(se)	(n)	%	(se)	(n)
Low/lower-middle	11.1	(6.5)	(4)	0.0	–	(0)	5.7	(3.2)	(4)
Upper-middle	9.1	(8.6)	(1)	14.5	(10.6)	(3)	7.5	(3.5)	(5)
High	26.7	(7.6)	(15)	13.5	(5.8)	(8)	14.9	(3.6)	(17)
Total	18.3	(4.5)	(20)	13.0	(4.8)	(11)	9.9	(2.0)	(26)
χ^2_2	6.836*			0.0			2.0		

*Significant at the .05 level, two-sided test

[1] Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

Appendix Table 14

Pooled proportions of female respondents with 12-month DSM-IV/CIDI mental disorders who received minimally adequate treatment for these disorders in the 12 months before interview by country income level separately among respondents who were current students, college attriters, and nonstudents in the same age range[1]

	Students			Attriters			Others		
	%	(se)	(n)	%	(se)	(n)	%	(se)	(n)
Low/lower-middle	0.7	(0.7)	(1)	2.7	(2.7)	(1)	6.5	(4.3)	(4)
Upper-middle	13.2	(6.3)	(5)	4.7	(3.5)	(2)	9.1	(2.8)	(13)
High	20.3	(3.4)	(18)	31.6	(5.4)	(26)	16.7	(3.3)	(30)
Total	14.7	(2.5)	(24)	20.1	(4.1)	(29)	11.0	(2.0)	(47)
χ^2_2	13.741*			11.683*			5.8		

*Significant at the .05 level, two-sided test

[1] Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

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Table 1

Pooled 12-month prevalence of DSM-IV/CIDI mental disorders separately among respondents ages 18–22 who were current students, college attriters, and nonstudents in the same age range[1]

	Students (ST)		Attriters (AT)		Other (OT)		ST:AT[2]		ST:OT[2]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	OR	(95 % CI)	AUC[3]
I. Anxiety disorders											
Separation Anxiety Disorder	1.3	(0.7)	1.5	(0.5)	1.2	(0.2)	1.2	(0.3–3.8)	1.1	(0.3–3.6)	0.84
Panic Disorder	1.2	(0.3)	1.1	(0.3)	1.4	(0.2)	2.6*	(1.1–5.9)	0.9	(0.5–1.5)	0.72
GAD	0.4	(0.1)	0.8	(0.3)	0.8	(0.1)	0.9	(0.3–2.5)	0.5*	(0.3–1.0)	0.70
Any Phobia	9.0	(1.1)	11.1	(1.5)	9.9	(0.6)	0.9	(0.6–1.3)	0.9	(0.7–1.2)	0.68
PTSD	1.3	(0.3)	2.7	(0.6)	2.0	(0.3)	0.9	(0.5–1.7)	0.6*	(0.3–1.0)	0.83
Any	11.7	(1.3)	14.7	(1.6)	12.9	(0.6)	1.0	(0.7–1.4)	0.9	(0.7–1.2)	0.69
II. Mood disorders											
MDD	4.5	(0.5)	7.7	(0.9)	5.1	(0.4)	0.7	(0.5–1.1)	0.9	(0.6–1.2)	0.67
Bipolar	1.8	(0.4)	2.3	(0.5)	2.6	(0.3)	1.1	(0.6–2.2)	0.6	(0.4–1.0)	0.75
Any	6.0	(0.7)	9.9	(1.0)	7.6	(0.5)	0.8	(0.6–1.1)	0.7*	(0.6–1.0)	0.68
III. Behavioral disorders											
ADHD	0.4	(0.2)	1.5	(0.7)	1.0	(0.1)	0.4	(0.1–1.4)	0.3*	(0.1–0.9)	0.83
Conduct Disorder	0.2	(0.1)	0.4	(0.3)	0.5	(0.1)	0.4	(0.0–4.3)	0.3	(0.1–1.4)	0.86
ODD	0.2	(0.1)	1.0	(0.5)	0.6	(0.1)	0.3	(0.1–1.6)	0.3*	(0.1–0.9)	0.82
IED	2.4	(0.4)	3.0	(0.7)	2.4	(0.3)	0.8	(0.5–1.3)	0.9	(0.6–1.3)	0.81
Any	2.8	(0.4)	5.3	(1.1)	3.8	(0.3)	0.6*	(0.4–1.0)	0.7*	(0.5–0.9)	0.79
IV. Substance disorders											
Alcohol Abuse	2.5	(0.4)	4.2	(0.9)	3.1	(0.3)	0.7	(0.4–1.3)	0.7	(0.5–1.0)	0.77
Alcohol Dependence	1.4	(0.4)	1.6	(0.5)	1.5	(0.2)	1.1	(0.5–2.7)	0.8	(0.4–1.5)	0.77
Drug Abuse	0.7	(0.2)	1.3	(0.5)	1.0	(0.2)	0.7	(0.2–1.9)	0.6	(0.3–1.4)	0.82
Drug Dependence	0.2	(0.1)	1.1	(0.4)	0.9	(0.2)	0.3	(0.1–1.2)	0.2*	(0.1–0.8)	0.83
Any	4.5	(0.6)	6.7	(1.1)	5.8	(0.4)	0.9	(0.5–1.4)	0.7*	(0.5–0.9)	0.78
V. Total disorders											

	Students (ST)		Attriters (AT)		Other (OT)		ST:AT[2]		ST:OT[2]		
	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	OR	(95 % CI)	AUC[3]
Low/lower middle countries	12.8	(1.9)	13.4	(2.5)	14.7	(1.1)	1.1	(0.6–1.9)	0.8	(0.6–1.2)	0.64
Upper-middle countries	21.8	(4.9)	31.8	(6.5)	21.9	(1.9)	0.8	(0.3–2.0)	1.0	(0.5–1.8)	0.63
High countries	25.2	(1.7)	27.5	(2.6)	27.3	(1.4)	1.1	(0.8–1.5)	0.9	(0.7–1.1)	0.66
Total	20.3	(1.4)	25.0	(2.0)	21.4	(0.8)	1.0	(0.8–1.3)	0.9	(0.7–1.1)	0.67
(n)	(1,572)		(702)		(3,476)		–		–		–

*Significant at the .05 level, two-sided test

[1]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[2]Based on a pooled within-survey logistic regression model adjusting for between-survey variation in the association of age-sex with student status.

[3]The AUCs were generated from logistic models in which dummy variables for being an attriter or other nonstudent were included as predictors of the mental disorder in the row heading or, in the case of Part VI, number of disorders estimated in an order logistic framework, controlling age-sex and survey.

Table 2

Pooled percentages of 12-month DSM-IV/CIDI disorders with pre-matriculation onsets[1] separately among respondents ages 18–22 who were current students, college attriters, and nonstudents[2] in the same age range[3]

	Students (ST)		Attriters (AT)		Other[4] (OT)		ST vs. AT	ST vs. OT
	%	(se)	%	(se)	%	(se)	χ^2	χ^2
I. Anxiety disorders								
Separation Anxiety Disorder	70.4	(18.4)	44.9	(17.5)	62.6	(7.0)	0.3	2.2
Panic Disorder	48.2	(12.1)	75.6	(13.4)	84.6	(4.3)	0.1	0.7
GAD	61.6	(12.6)	48.5	(17.4)	76.9	(6.5)	0.4	2.3
Any Phobia	95.6	(1.5)	89.8	(3.6)	97.6	(0.9)	0.2	1.2
PTSD	58.7	(11.2)	73.8	(9.3)	77.4	(5.2)	0.0	1.5
Any	91.6	(1.8)	86.9	(3.1)	93.8	(1.1)	0.0	1.5
II. Mood disorders								
MDD	53.7	(6.2)	63.5	(6.3)	64.9	(3.4)	0.5	2.9
Bipolar	61.4	(10.8)	58.6	(11.1)	61.8	(4.9)	0.5	0.1
Any	58.4	(5.3)	64.4	(5.5)	63.9	(2.8)	0.6	0.4
III. Behavior disorders								
ADHD	100.0	(0.0)	100.0	(0.0)	100.0	(0.0)	–	–
Conduct Disorder	100.0	(0.0)	100.0	(0.0)	100.0	(0.0)	–	–
ODD	100.0	(0.0)	100.0	(0.0)	99.0	(1.0)	–	–
IED	90.5	(5.7)	84.3	(7.5)	88.2	(2.8)	0.1	0.0
Any	92.1	(4.8)	92.0	(4.3)	94.2	(1.6)	0.0	0.1
IV. Substance disorders								
Alcohol Abuse	30.0	(6.0)	57.5	(11.9)	43.6	(4.9)	8.6*	3.4
Alcohol Dependence	32.4	(13.7)	32.3	(12.9)	45.5	(6.3)	0.0	0.1
Drug Abuse	53.8	(15.7)	52.4	(19.8)	61.7	(7.9)	1.5	1.3
Drug Dependence	100.0	(0.0)	66.4	(17.3)	60.8	(8.5)	–	–
Any	46.6	(6.7)	61.2	(8.5)	55.8	(3.6)	3.3	0.9
V. Total disorders								
Any	83.1	(2.3)	83.6	(3.0)	87.7	(1.2)	0.9	5.4*

*Significant at the .05 level.

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]Post-matriculation onset disorders were defined as those with onsets at ages 18+.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]"All other" respondents were defined as those who never entered college whether or not they graduated from secondary school.

Table 3

Pooled lifetime prevalence of pre-matriculation onset DSM-IV/CIDI mental disorders[1] separately among respondents ages 18–22 who entered college (both current students and attriters), secondary school graduates in the same age range who never entered college, and all other respondents[2] in the same age range[3]

	College entrants (CE)		Other respondents who were secondary school…									
			Graduates (GR)		Total[4]		CE: GR[5]			CE: Total[5]		
	%	(se)	%	(se)	%	(se)	OR	(95% CI)	AUC	OR	(95% CI)	AUC
I. Anxiety disorders												
Separation Anxiety Disorder	2.4	0.3	4.2	0.5	4.0	0.4	0.6	(0.3–1.1)	0.85	0.5*	(0.3–0.9)	0.85
Panic Disorder	1.1	0.2	1.4	0.2	1.4	0.2	0.6*	(0.3–1.0)	0.70	0.6	(0.3–1.1)	0.69
GAD	0.9	0.2	1.2	0.2	1.2	0.2	0.6	(0.3–1.2)	0.75	0.6	(0.3–1.1)	0.75
Any Phobia	11.6	0.7	13.9	0.8	12.5	0.6	0.8	(0.6–1.0)	0.66	0.9	(0.7–1.1)	0.67
PTSD	1.9	0.3	2.7	0.4	2.4	0.3	0.6*	(0.3–1.0)	0.83	0.6*	(0.4–0.9)	0.83
Any	15.7	0.8	19.0	1.0	17.3	0.7	0.8*	(0.6–1.0)	0.69	0.8	(0.7–1.0)	0.69
II. Mood disorders												
MDD	5.9	0.5	6.2	0.4	5.8	0.4	0.9	(0.6–1.1)	0.69	0.8	(0.6–1.1)	0.69
Bipolar	2.1	0.3	2.3	0.4	2.4	0.3	0.8	(0.5–1.4)	0.74	0.8	(0.5–1.2)	0.74
Any	7.9	0.5	8.3	0.6	8.1	0.5	0.8	(0.6–1.1)	0.70	0.8	(0.6–1.0)	0.70
III. Behavioral disorders												
ADHD	2.1	0.3	2.0	0.4	2.0	0.3	1.1	(0.6–1.8)	0.85	0.8	(0.5–1.2)	0.84
Conduct Disorder	1.6	0.3	2.9	0.4	2.8	0.3	0.5*	(0.3–0.8)	0.88	0.4*	(0.2–0.6)	0.88
ODD	2.3	0.3	3.1	0.4	2.9	0.3	0.7	(0.4–1.2)	0.86	0.6*	(0.4–0.9)	0.85
IED	3.1	0.5	2.6	0.3	2.7	0.3	1.3	(0.9–1.9)	0.83	1.0	(0.8–1.4)	0.83
Any	6.8	0.6	7.8	0.7	7.5	0.5	0.9	(0.6–1.2)	0.83	0.7*	(0.6–0.9)	0.82
IV. Substance disorders												
Alcohol Abuse	2.4	0.3	3.5	0.4	4.0	0.4	0.6*	(0.4–0.9)	0.78	0.4*	(0.3–0.6)	0.78
Alcohol Dependence	0.8	0.2	0.8	0.2	1.3	0.2	1.0	(0.5–2.0)	0.82	0.6	(0.3–1.1)	0.82
Drug Abuse	1.7	0.3	1.9	0.3	2.3	0.3	0.7	(0.4–1.2)	0.83	0.6*	(0.4–0.9)	0.82
Drug Dependence	1.0	0.2	1.0	0.2	1.2	0.2	0.9	(0.4–1.8)	0.81	0.7	(0.4–1.2)	0.80

	College entrants (CE)		Other respondents who were secondary school…									
			Graduates (GR)		Total[4]		CE: GR[5]			CE: Total[5]		
	%	(se)	%	(se)	%	(se)	OR	(95% CI)	AUC	OR	(95% CI)	AUC
Any	5.0	0.5	5.7	0.5	6.9	0.4	0.7*	(0.5–1.0)	0.80	0.5*	(0.4–0.7)	0.80
V. Total disorders												
Low/lower middle countries	15.8	(1.8)	19.9	(2.0)	16.5	(1.2)	0.8	(0.5–1.1)	0.67	0.9	(0.6–1.3)	0.67
Upper-middle countries	29.5	(4.5)	28.9	(3.5)	29.1	(2.1)	1.0	(0.6–1.9)	0.63	0.9	(0.5–1.4)	0.63
High countries	29.3	(1.6)	33.2	(1.8)	35.7	(1.4)	0.7*	(0.7–1.0)	0.70	0.7*	(0.5–0.8)	0.70
Total	25.3	1.0	28.2	1.1	27.2	0.9	0.8*	(0.7–1.0)	0.70	0.8*	(0.6–0.9)	0.70
(n)	(2,274)		(1,571)		(3,476)		–			–		

*Significant at the .05 level, two-sided test

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]"All other" respondents were defined as those who never entered college whether or not graduated from secondary school.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]Secondary school graduates or non-graduates.

[5]Based on a single pooled logistic model for each row in which separate dummy variables for being an attriter or other nonstudent were included as predictors of the mental disorder in the row heading or, in the case of Part VI, number of disorders estimated in an ordered logistic framework, controlling age-sex and survey.

Table 4

Pooled lifetime prevalence of pre-matriculation[1] and post-matriculation[2] onset DSM-IV/CIDI mental disorders separately among respondents ages 18–22 who were current students or college attriters[3]

	Students (ST)				Attriters (AT)				Students vs. Attriters					
	Pre-		Post-[4]		Pre-		Post-[4]		Pre-[5]			Post-[6]		
	%	(se)	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)	AUC
I. Anxiety disorders														
Separation Anxiety Disorder	2.7	(0.8)	0.7	(0.2)	1.8	(0.5)	1.1	(0.3)	1.5	(0.6–3.5)	0.85	1.2	(0.6–2.5)	0.89
Panic Disorder	1.1	(0.3)	0.6	(0.3)	1.1	(0.3)	0.3	(0.2)	1.8	(0.8–3.9)	0.69	5.0*	(1.1–22.1)	0.82
GAD	0.7	(0.2)	0.2	(0.1)	1.3	(0.5)	0.9	(0.3)	0.7	(0.3–1.9)	0.75	0.6	(0.2–1.4)	0.79
Any Phobia	11.3	(1.1)	0.5	(0.1)	12.3	(1.5)	1.3	(0.5)	1.0	(0.7–1.4)	0.67	0.7	(0.2–2.6)	0.74
PTSD	1.1	(0.3)	0.6	(0.1)	3.6	(0.7)	0.7	(0.3)	0.5	(0.3–1.1)	0.83	2.0	(0.8–4.8)	0.83
Any	15.1	(1.4)	1.5	(0.2)	16.9	(1.7)	2.8	(0.6)	1.0	(0.8–1.4)	0.69	1.1	(0.6–2.0)	0.77
II. Mood disorders														
MDD	4.8	(0.5)	3.4	(0.5)	8.3	(1.1)	4.0	(0.8)	0.7	(0.5–1.1)	0.69	1.4	(0.8–2.3)	0.72
Bipolar	1.9	(0.4)	0.8	(0.3)	2.6	(0.6)	1.2	(0.4)	0.8	(0.4–1.5)	0.74	1.2	(0.4–3.2)	0.79
Any	6.6	(0.6)	3.9	(0.6)	10.8	(1.3)	5.2	(0.9)	0.7	(0.5–1.1)	0.70	1.3	(0.8–2.0)	0.72
III. Behavioral disorders														
ADHD	1.9	(0.4)	0.0	(0.0)	2.6	(0.7)	0.0	(0.0)	1.2	(0.5–2.6)	0.84	_7	–	–
Conduct Disorder	1.2	(0.3)	0.0	(0.0)	2.4	(0.7)	0.0	(0.0)	0.8	(0.3–1.7)	0.88	_7	–	–
ODD	1.9	(0.4)	0.0	(0.0)	3.3	(0.7)	0.0	(0.0)	0.8	(0.4–1.5)	0.85	_7	–	–
IED	2.9	(0.5)	0.2	(0.1)	3.7	(0.8)	0.5	(0.2)	0.8	(0.5–1.4)	0.83	0.8	(0.2–3.7)	0.88
Any	5.9	(0.7)	0.2	(0.2)	8.7	(1.2)	0.5	(0.3)	0.9	(0.6–1.3)	0.82	0.8	(0.2–4.6)	0.88
IV. Substance disorders														
Alcohol Abuse	1.5	(0.2)	2.6	(0.4)	4.5	(0.9)	5.6	(1.1)	0.4*	(0.2–0.7)	0.78	0.9	(0.5–1.5)	0.79
Alcohol Dependence	0.6	(0.2)	1.1	(0.3)	1.4	(0.4)	1.7	(0.6)	0.4	(0.1–1.0)	0.83	1.3	(0.5–3.2)	0.79
Drug Abuse	0.9	(0.3)	0.4	(0.1)	3.4	(0.7)	1.2	(0.5)	0.3*	(0.1–0.6)	0.84	0.8	(0.3–2.1)	0.77
Drug Dependence	0.4	(0.2)	0.1	(0.1)	2.2	(0.6)	0.6	(0.3)	0.2*	(0.1–0.6)	0.83	0.5	(0.1–2.3)	0.81
Any	3.2	(0.5)	3.5	(0.5)	8.8	(1.1)	7.7	(1.2)	0.4*	(0.3–0.6)	0.80	0.9	(0.5–1.5)	0.79

	Students (ST)				Attriters (AT)				Students vs. Attriters					
	Pre-		Post-[4]		Pre-		Post-[4]		Pre-[5]			Post-[6]		
	%	(se)	%	(se)	%	(se)	%	(se)	OR	(95 % CI)	AUC	OR	(95 % CI)	AUC
V. Total disorders														
Low/lower middle countries	15.4	(2.2)	4.8	(1.3)	17.3	(2.9)	6.9	(2.6)	0.9	(0.5–1.6)	0.67	1.2	(0.4–3.7)	0.74
Upper-middle countries	26.8	(5.7)	2.3	(0.9)	38.8	(6.5)	9.4	(4.1)	0.8	(0.3–1.9)	0.63	0.6	(0.1–2.4)	0.72
High countries	26.9	(1.8)	10.3	(1.3)	32.9	(2.8)	12.8	(2.1)	0.8	(0.61.1)	0.70	1.3	(0.8–2.1)	0.70
Total	22.9	(1.6)	6.7	(0.7)	30.3	(2.1)	10.9	(1.5)	0.9	(0.6–1.1)	0.70	1.2	(0.8–1.8)	0.73
(n)	(1,572)		_[8]		(702)		_[9]							

*Significant at the .05 level, two-sided test

[1]Pre-matriculation onset disorders were defined as those with onsets at ages 0–17.

[2]Post-matriculation onset disorders were defined as those with onsets at ages 18+.

[3]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.

[4]Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation among students varies across disorders from a low of 1,336 who had no pre-matriculation history of specific phobias to a high of 1,563 who had no pre-matriculation history of drug dependence, with a median sample size of 1,548. The sample size for having no pre-matriculation history of any disorder is 1,102 among students. Among attriters, the sample size for estimating prevalence of post-matriculation onsets for respondents who did not have a pre-matriculation history of the disorder varies from a low of 574 among attriters who had no pre-matriculation history of specific phobias to a high of 690 among attriters who had no pre-matriculation history of generalized anxiety disorder, with a median sample size of 676. The sample size for having no pre-matriculation history of any disorder is 429 among attriters.

[5]Based on a pooled logistic model in which a dummy variable for the pre-matriculation disorder in the row heading or, in the case of Part VI, a count of number of pre-matriculation disorders, was used to predict whether the respondent was a student (coded 1) or an attriter (coded 0) within the sample of respondents who entered college, controlling age-sex and survey.

[6]Based on a pooled logistic model in which a dummy variable for the post-matriculation disorder in the row heading among respondents who did not have that disorder prior to matriculation or, in the case of Part VI, a count of number of pre-matriculation disorders in the total sample, was used to predict whether the respondent was a student (coded 1) or an attriter (coded 0) within the sample of respondents who entered college, controlling age-sex and survey.

[7]There were no post-matriculation onsets of these disorders by definition, as the CIDI required onsets before age 8 (ADHD) or 18 (Conduct Disorder, Oppositional Defiant Disorder).

[8]Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation varies across disorders from a low of 653 among male students and 683 among female students who had no pre-matriculation history of specific phobias to a high of 742 among male students and 821 among female students who had no pre-matriculation history of drug dependence. The sample size for having no pre-matriculation history of any disorder is 544 among male students and 558 among female students.

[9]Prevalence of post-matriculation onsets was estimated in the subsample of respondents who did not have a pre-matriculation history of the disorder. As a result, the sample size for each calculation varies across disorders from a low of 239 among male attriters and 335 among female attriters who had no pre-matriculation history of specific phobias to a high of 267 among male attriters and 425 among female attriters who had no pre-matriculation history of panic disorder. The sample size for having no pre-matriculation history of any disorder is 170 among male attriters and 259 among female attriters.

Table 5

Pooled proportions of respondents with 12-month DSM-IV/CIDI mental disorders who received minimally adequate treatment for these disorders in the 12 months before interview by country income level separately among respondents who were current students, college attriters, and nonstudents in the same age range[1]

	Students			Attriters			Others		
	%	(se)	(n)	%	(se)	(n)	%	(se)	(n)
Low/lower-middle	6.7	(3.9)	(79)	2.2	(2.2)	(28)	6.1	(2.8)	(206)
Upper-middle	11.4	(5.1)	(60)	9.4	(4.9)	(30)	8.5	(2.2)	(237)
High	23.1	(3.4)	(128)	21.5	(4.7)	(123)	15.8	(2.2)	(260)
Total	16.4	(2.4)	(267)	16.6	(3.3)	(181)	10.6	(1.4)	(703)
χ^2_2		7.4*			7.9*			6.7*	

*Significant at the .05 level, two-sided test

[1]Respondents were limited to those in the Part II sample who were 18–22 years old at the time of interview and had not graduated from college.